Electronic Version
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Claims

[c1] *1*.A non-coherent frequency shift keying transmitting circuit for up-converting a baseband signal to a radio frequency signal , comprising:
a micro processing unit, for receiving said baseband signal and generating a digital signal sequence corresponding to said baseband signal;
a frequency synthesizer, coupled to said micro processing unit, for synthesizing said digital signal sequence to a plurality of synthesized signals;
a first oscillator, coupled to said frequency synthesizer, for up-converting said plurality of synthesized signals to an intermediate frequency signal;
a first filter, coupled to said first oscillator, for removing a noise of said intermediate frequency signal;
a digital-analog converter coupled to said first filter;
a second oscillator, coupled to said digital-analog converter, for up-converting to the radio frequency signal;
a second filter, coupled to said second oscillator, for removing a noise of said radio frequency signal; and
a power amplifier coupled to said second filter.

[c2] *2*.The transmitting circuit of claim *1*, wherein said fre-

quency synthesizer is a digital frequency synthesizer.

[c3] *3.*The transmitting circuit of claim *2*, wherein said digital frequency synthesizer uses interpolation and a linear feedback shift register.

[c4] *4.*The transmitting circuit of claim *1*, wherein said synthesized signals are two signals.

[c5] *5.*The transmitting circuit of claim *1*, wherein said first oscillator is a numerical controlled oscillator.

[c6] *6.*The transmitting circuit of claim *1*, wherein said first filter is a cascaded integrator-comb filter.

[c7] *7.*The transmitting circuit of claim *1*, wherein said second oscillator is a local oscillator.

[c8] *8.*The transmitting circuit of claim *1*, wherein said second filter is an analog band-pass filter.

[c9] *9.*The transmitting circuit of claim *1*, further comprising a transmitting end coupled to said power amplifier.

[c10] *10.*A non-coherent frequency shift keying transmitting circuit for up-converting a baseband signal to a radio frequency signal , comprising:
a micro processing unit, receiving said baseband signal and generating a digital signal sequence corresponding

temptempto said baseband signal;
an intermediate frequency processor, coupled to said micro processing unit, up-converting said digital signal sequence to an intermediate frequency signal; and
a radio frequency processor, coupled to said intermediate frequency processor, up-converting said intermediate frequency signal to a radio frequency signal.

[c11] *11*.The transmitting circuit of claim *10*, wherein said intermediate frequency processor further comprises:
a frequency synthesizer, coupled to said micro processing unit, synthesizing said digital signal sequence to a plurality of synthesized signals;
a first oscillator, coupled to said frequency synthesizer, up-converting said plurality of synthesized signals to an intermediate frequency signal;
a first filter, coupled to said first oscillator, removing a noise of said intermediate frequency signal; and
a digital-analog converter coupled to said first filter.

[c12] *12*.The transmitting circuit of claim *10*, wherein said radio frequency processor further comprises:
a second oscillator, coupled to said digital-analog converter, for up-converting to a radio frequency signal;
a second filter, coupled to said second oscillator, for removing a noise of said radio frequency signal; and
a power amplifier, coupled to said second filter.

[c13] *13*.The transmitting circuit of claim *11*, wherein said frequency synthesizer is a digital frequency synthesizer.

[c14] *14*.The transmitting circuit of claim *13*, wherein said digital frequency synthesizer uses interpolation and a linear feedback shift register.

[c15] *15*.The transmitting circuit of claim *11*, wherein said synthesized signals are two signals.

[c16] *16*.The transmitting circuit of claim *11*, wherein said first oscillator is a numerical controlled oscillator.

[c17] *17*.The transmitting circuit of claim *11*, wherein said first filter is a cascaded integrator-comb filter.

[c18] *18*.The transmitting circuit of claim *12*, wherein said second oscillator is a local oscillator.

[c19] *19*.The transmitting circuit of claim *12*, wherein said second filter is an analog band-pass filter.

[c20] *20*.The transmitting circuit of claim *12*, further comprising a transmitting end coupled to said power amplifier.

[c21] *21*.A non-coherent frequency shift keying transmitting system for up-converting a baseband signal to a radio frequency signal , comprising:
a micro processing unit, for receiving said baseband sig-

nal and generating a digital signal sequence corresponding to said baseband signal;
a frequency synthesizer, coupled to said micro processing unit, for synthesizing said digital signal sequence to a plurality of synthesized signals;
a first oscillator, coupled to said frequency synthesizer, for up-converting said plurality of synthesized signals to an intermediate frequency signal;
a first filter, coupled to said first oscillator, for removing a noise of said intermediate frequency signal;
a digital-analog converter coupled to said first filter;
a second oscillator, coupled to said digital-analog converter, for up-converting to a radio frequency signal;
a second filter, coupled to said second oscillator, for removing a noise of said radio frequency signal; and
a power amplifier coupled to said second filter.

[c22] *22.*A method of non-coherent frequency shift keying transmission, for up-converting a baseband signal to a radio frequency signal , comprising:
receiving said baseband signal and generating a digital signal sequence corresponding to said baseband signal;
synthesizing said digital signal sequence to a plurality of synthesized signals;
up-converting said plurality of synthesized signals to an intermediate frequency signal with a first oscillating

method;

removing a noise of said intermediate frequency signal with a first filtering method;

converting said noise-removed intermediate frequency signal to an analog signal;

up-converting said analog signal to the radio frequency signal with a second oscillating method; and

removing a noise of said radio frequency signal with a second filtering method; and

amplifying said noise-removed radio frequency signal and transmitting said amplified radio frequency signal.

[c23] *23*.The method of claim *22*, wherein said step of synthesizing said digital signal sequence to synthesized signals is performed by a digital frequency synthesizing method.

[c24] *24*.The method of claim *22*, wherein said first oscillating method is a numerical controlled oscillating method.

[c25] *25*.The method of claim *22*, wherein said first filtering is a cascaded integrator-comb filtering method.

[c26] *26*.The method of claim *22*, wherein said second oscillating method is a local oscillating method.

[c27] *27*.The method of claim *22*, wherein said second filtering method is an analog band-pass filtering method.